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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,275	08/29/2000	German Gutierrez	19717-001510US	8800

20350 7590 12/13/2001

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EXAMINER

NADAV, ORI

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 12/13/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/650,275

Applicant(s)

GUTIERREZ, GERMAN

Examiner

ori nadav

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 9-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 14-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2811 6) ☐ Other:

Art Unit: 2811

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of claims 1-8 and 14-27 in Paper No. 6 is acknowledged

Drawings

2. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 6 and 23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no support for the claimed limitation of a seal ring only electrically contacts the substrate of the semiconductor die at the gap, as recited in claims 6 and 23, because electrical contact is present between the seal ring and the substrate of the semiconductor die at the elongate region.

Art Unit: 2811

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-7, 14-21 and 23-24, insofar as in compliance with 35 U.S.C. 112, are rejected under 35 U.S.C. 103(a) as being unpatentable over Joardar et al. (5,475,255).

Joardar et al. teach in figure 1 a semiconductor device comprising a die seal structure for a semiconductor die having a first conductivity type silicon substrate comprising an elongate region 106 electrically isolated from the remainder of the substrate extending around a major portion of the periphery of the substrate and having a gap between ends of the elongate region along a minor portion of the periphery; and a conductive seal ring 107 extending around the entire periphery of the die in contact with the die at the elongate region 106 and the gap to provide a limited electrical connection between the ring and the substrate at the gap.

Although Joardar et al. do not explicitly state that conductive seal ring 107 is in contact with the die at elongate region 106, figure 2 depicts conductive seal ring 107 is connected to ground voltage 206, which in turn is connected to elongate region 106. Therefore, conductive seal ring 107 is in contact with the die at elongate region 106.

Art Unit: 2811

Thus, the claimed structure is considered to be at least obvious over Joardar et al.'s structure.

Regarding claims 2, 14 and 19, although Joardar et al. do not explicitly state the elongate region comprises an elongate well region of a second conductivity type, Joardar et al. teach that an opposite conductivity type well provides further noise isolation for the device. Therefore, it is clear that the noise isolation rings 106, 107 comprise an opposite, second conductivity type. Noise isolation rings 106, 107 would not provide noise isolation if they do not comprise an opposite, second conductivity type. In the alternative, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an elongate region comprises an elongate well region of a second conductivity type in Joardar et al.'s device in order to provide noise isolation to the device with a well known method, of which official notice is taken.

Regarding claims 3-4, 15-16 and 20-21, it is conventional to reverse the polarity of the transistor. Therefore, it would be obvious to reverse the polarity, as claimed.

Art Unit: 2811

7. Claims 5, 8, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joardar et al. (5,475,255) in view of Admitted Prior Art (APA).

Joardar et al. teach substantially the entire claimed structure, as applied to claim 1 above, except an elongate region comprises an elongate dielectric region. APA teaches in figure 1 an elongate region comprises an elongate dielectric region. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an elongate region comprises an elongate dielectric region in Joardar et al.'s device in order to provide better noise isolation to the device with a conventional seal ring.

Regarding claims 8 and 25, APA teaches in figure 1 a conductive seal ring comprises a multi layer structure of alternating conducting and insulating layers, and wherein vias are formed in the insulating layers.

Regarding claim 26, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an elongate region comprising oxide in Joardar et al. and APA's device, because oxide a conventional insulating material, of which official notice is taken.

Art Unit: 2811

Regarding claim 27, APA teaches in figure 1 a conductive seal ring connected to the substrate by a metal stub.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-E and N are cited as being related to seal rings.

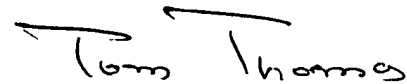
Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday. If attempts to reach the examiner by

Art Unit: 2811

telephone are unsuccessful, the examiner's supervisor, Tom Thomas, can be reached at **(703) 308-2772**.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink that reads "Tom Thomas". The signature is written in a cursive style with a horizontal line above the first "T" and another above the second "T".

TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Ori Nadav

December 10, 2001